



August 31, 2017

TO: DHS Component Safety and Health Contacts

SUBJECT: Floodwater Associated Health Risks to the DHS Workforce

Background

The impact of Hurricane Harvey has resulted in severe flooding in Texas and in parts of neighboring Louisiana. Storm and flood cleanup activities can be hazardous. Prior hurricane cleanup and recovery efforts, such as those following Hurricanes Sandy and Katrina, have provided valuable lessons that supervisors should consider in protecting the DHS workforce involved in response efforts in Texas. Workers and volunteers involved with flood response and recovery should be aware of the potential dangers involved and take proper precautions to avoid associated health and safety risks.

Risk to DHS Workforce in Texas and Louisiana

Work-related hazards that could be encountered in severely flooded areas are numerous and diverse, examples include:

- Direct risks from high and or moving water
- Electrical hazards
- Carbon monoxide poisoning
- Musculoskeletal hazards
- Heat/cold stress
- Motor vehicle accidents
- Hazardous materials
- Fires/burns
- Confined spaces
- Contaminated standing water
- Uncontained sewage
- Falls

Comprehensive information about hazards associated with storm and flood cleanup can be found on the National Institute for Occupational Safety and Health (NIOSH) site at <http://www.cdc.gov/niosh/topics/emres/flood.html>. This information is intended to help employers and workers prevent work-related injuries and illnesses in the field during rescue, recovery, and clean-up operations.

Standing and Flood Water Precautions

Standing and floodwaters pose various health risks. Awareness of these risks can help prevent injuries and illness.

Animals, Vectors, and Other Insects: Standing and floodwaters can displace animals and insects. Stay alert of your surroundings and avoid contact. Standing water provides prime breeding grounds for mosquitoes. At this time, there is no mosquito-borne Zika threat in Texas or Louisiana. However, local Texas Public Health has instituted enhanced Zika testing and surveillance in nine-counties that are at higher risk of Zika due to climate and geography. These nine Texas counties are Cameron, Hidalgo, Starr, Webb, Willacy, Zapata, Kinney, Maverick, and Val Verde. Local Texas Public Health officials continue to encourage mosquito-bite prevention precautions due to risk of West Nile Virus, Zika, and Chikungunya. Louisiana has reported past cases of West Nile virus, St. Louis Encephalitis, Eastern Equine Encephalitis, and La Crosse Encephalitis. These viral infections are rare and result in mild flu-like symptoms but some people can become severely ill or die.

This Safety and Health Information Bulletin is not a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, for internal DHS use only; informational in content, and is intended to assist supervisors and employees in providing a safe and healthful workplace. For more information about Office of Health Affairs Health Advisories, contact the OHA Watch Desk at NOC.OHA@hq.dhs.gov or 202-282-9262.

Diarrheal Disease: Eating or drinking anything contaminated by floodwater can cause diarrheal disease. Wash hands with soap and clean water before eating or handling food after contact with floodwaters.

Drowning: Regardless of swimming abilities, floodwater poses drowning risks for everyone. Swiftly moving shallow water can be deadly. Do not attempt to swim in moving floodwaters. Vehicles do not provide adequate protection from floodwaters. They can be swept away or may stall in moving water.

Infection: Standing water can be a source of infection and may contain sharps and hazardous chemicals that pose additional health risks. Open wounds and rashes exposed to flood waters can become infected. To prevent wound infections, avoid exposure to flood waters if you have an open wound or cover wounds with a waterproof bandage. Keep open wounds as clean as possible by washing well with soap and clean water. If a wound develops redness, swelling, or drainage, seek immediate medical attention.

Trench foot: Trench foot, also known as immersion foot, occurs when the feet are wet for long periods of time and can be quite painful. To prevent trench foot, when possible, air-dry and elevate feet and change into dry socks and shoes. Early signs and symptoms include tingling and/or itching sensation, pain, swelling, cold and blotchy skin, numbness, and a prickly or heavy feeling in the foot. If left untreated, blisters and skin or tissue death may follow. Thoroughly clean and dry your feet and put on clean, dry socks daily. Treat the affected part by applying warm packs or soaking in warm water (102° to 110° F) for approximately 5 minutes. When sleeping or resting, do not wear socks, and seek immediate medical attention.

Previously published Occupational Health and Safety Advisories on Zika, mosquito bite preventive measures, and other disease information and guidance is available at the OHA Connect intranet site at <http://dhsconnect.dhs.gov/org/comp/oha/whpomd/Pages/Occupational-Health-Branch-.aspx>

Austere Environmental Considerations

When responding to a disaster site the environmental conditions should also be considered as they may negatively affect the health of the responder. An austere working environment may include:

- Ongoing weather/environmental threats (e.g. heat, cold, storms, wind, or altitude)
- Standing contaminated water and sewage
- Limited availability of reliable electrical power, transportation, medical supplies, technologies, resources, or expertise
- Limited communications, including little to no access to medical direction or oversight
- Limited capacity to provide care due to lack of safe environment
- Unscheduled meals, rotating shifts, and/or extended work hours

Austere environments may cause an individual to experience acute operational stress symptoms that can be both physical and behavioral health in nature. These environments and related missions may also exacerbate pre-existing conditions. Disaster response employees should be in good health with current adult immunizations recommended by the Centers for Disease Control and Prevention (CDC). In addition, certain job series may require additional immunizations such as Hepatitis B for healthcare workers, or Hepatitis A for workers with the potential exposure to raw sewage. Pregnant employees, depending on their duty assignment, can have additional risks and should consult with their private obstetrician before deploying to any austere environments.

Assistance for Managers/Supervisors

Management is encouraged to engage with their legal counsel, occupational medicine physician, safety representatives, and human resources office, and review collective bargaining agreements as applicable. Office of Health Affairs Occupational Medicine subject matter experts are available to assist Component's in developing and evaluating deployment policies as needed.

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We are always looking to improve and welcome your suggestions or comments. Please fill out our Occupational Health Support Survey at <https://www.surveymonkey.com/r/BKGJCC6>.

References:

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2. CDC: Flood Waters or Standing Waters. Retrieved 8/28/2017 from <http://www.cdc.gov/healthywater/emergency/extreme-weather/floods-standingwater.html>
3. OSHA Fact Sheet: Keeping Workers Safe during Hurricane Sandy Cleanup and Recovery. Retrieved 8/28/2017 from https://www.osha.gov/Publications/OSHA_FS-3610.pdf
4. Texas Health and Human Service: Zika in Texas. Retrieved 8/28/2017 from <http://www.texaszika.org/index.htm>
5. Texas Department of Public Safety: Texas Mosquito-borne Disease Awareness and Prevention. Retrieved 8/28/2017 from <https://www.dps.texas.gov/dem/Preparedness/tips/westNile.htm>
6. Louisiana Department of Health: Community and Preventive Health-West Nile Virus. Retrieved 8/28/2017 from <http://new.dhh.louisiana.gov/index.cfm/page/539>